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ABSTRACT

The Project ALERT (Adult Literacy Enhanced & Redefined through Training) Workplace Literacy Project consisted of a partnership between Wayne State University, the Detroit Public schools, and several city organizations, unions, and manufacturers in the automobile industry, which formed to meet employees' job-specific basic skills application needs in manufacturing and service operations, through the development of whole language curriculum and training. One of the courses developed during the project was a multimedia course based on "The New Reading Disc." A similar disk was developed for the project, customized for a manufacturing site in Detroit to include terminology, photos, videos, and topics of interest to low-literacy workers. Developing the disk took approximately 150 hours and included the following components: deciding what topics to include; determining terminology; interviewing workers; allocating topics to formats; researching; writing texts; checking texts for readability; finding photos; obtaining permissions to use photos; taking original videotapes; editing videotapes to go with text; scanning pictures into computers; writing scripts; making voice overlays; imputing components into hard drive; and transferring customized portions to site. The product was user friendly and was well received by participants. (KC)

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ED 424 384

WORKPLACE EDUCATION

Customization of Multimedia Instruction Template for Low Literates

Effective Communicaton on Computer-Lessons for Use with New Reading Disk

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CE 077 294

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Customization of a Multimedia Instruction Template for Low-Literates

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Customization of a multimedia instruction template was completed as part of curriculum development for production employees in a manufacturing plant. Funded by a grant from the US Department of Education's National Workplace Literacy Program, Project ALERT (Adult Literacy Enhanced and Refined through Training) was a three-year effort to develop and deploy a number of innovative approaches to delivering workplace literacy programs. In partnership with Chrysler Detroit Axle, Detroit Public Schools, and the UAW, Wayne State University sought to develop a program to meet the needs of the employees and management at Detroit Axle, a large manufacturing plant in Detroit.

Studies have indicated that learners with low literacy skills often hesitate getting into classes which remind them of the school experiences in which they failed. These low literates often resist more of the same typical classroom instruction they negatively experienced as children. (Kazemek and Rigg, 1983) Instruction via computers can have benefits for these reluctant learners. These learners, who use computers as a means for learning, refer to their learning sessions as a computer class, lessening the stigma of basic literacy deficiency. There are also the advantages of privacy, individualization of instruction and inherent interest in using computers. (Askov and Clark, 1991)

For instruction to be meaningful, it must meet the needs of students. The curriculum was designed for hourly workers at this manufacturing plant in Detroit. The needs assessment conducted with supervisors and hourly workers indicated a perceived need for improvement in reading (60%), for computer skills (36%), for upgrading skills(32%) and for quality emphasis (20%). Others indicated a need for writing effective notes or memos. Considering the need for improvement in reading skills and interest in computers, it was felt that a program which combined these two elements would be a good choice.

Thinking that our target audience would be workers who were experiencing difficulty with reading and writing, our project team looked for a multimedia program that might address the reading/writing needs of these low literate workers. One of the project team members saw *The New Reading Disc* demonstrated at an instructional technology conference and told the rest of the team that he thought this disk had possibilities for the needs of the targeted workers at Detroit Axle.

The New Reading Disc which was developed in England to address the needs of adults who struggle with reading and writing at a basic level. This seemed like an exciting new resource which uses multimedia technology to bring a fresh approach to

help adults with reading and writing skills. It requires only a little knowledge, on the part of users, of computers and because almost all of the instructions are spoken, learners don't need to be able to read to use it. All the text they see on the monitor screen can be read aloud to them, with a click on the ear icon. Also they use the mouse to tell the computer what to do. If they get stuck, there is always spoken help to assist them, by clicking on the "? "icon.

The New Reading Disk offers many benefits for the low literates. With each activity, each line of text is written out as well as providing a voice reading, when needed. The written text can be heard by dragging the ear icon to the line of text. Students that need to hear the language patterns can listen to the sentences read as many times as needed. This repetition of language patterns is especially beneficial to English as a Second Language students. When an individual selects lines of print that interest him/her from any format or writes in his/her own words, these selections can be printed with the accompanying photo. These can be taken by the individual to be read again later for additional practice.

One of the appeals of this disk is to offer adults opportunities to read and write about topics that interest grown-ups in adult-looking formats. There are three writing activities: writing an article, taking an issue in a debate and writing supporting arguments for it, and writing a letter. There is a set of map reading activities, and a set of basic reading exercises. The topics of the original disk are of interest to adult learners, such as working women, needs of care givers, housing, AIDS, safety, love, things that frighten, etc. The letter format includes topics, such as complaints about housing issues, letters to friends, letters to officials about needed action. The debate format covers topics, such as drugs, animal rights, and vandalism. In this program, there are six different standard kinds of activities.

Since the formats were developed in England, they contain somewhat heavy British accents and unfamiliar word-usage which may not be as suitable to American workers. This disk has been customized for a manufacturing site in Detroit to include terminology, photos, videos, and topics of interest to these particular workers. The customized version, which we developed, of *The New Reading Disc* includes additional topics such as work process at the plant, possible problems on the line, advantages of today's workers, alternative fuels, consumer savvy, cars of the future, benefits of HMO's, speed limit changes, and buying or leasing a car.

Although the effort involved in customizing this particular program is rather labor intensive, requiring approximately 150 hours for fifteen program items, it was well received by the workers for whom it was designed. The customization process included researching topics, determining appropriate terminology, finding and scanning many photos, taking and editing video, writing scripts, and inserting voice overlays along with the accompanying text, pictures and videos using the authoring custom feature of *The New Reading Disc.*

Procedure

When I was asked to undertake this assignment, I reviewed the needs assessment conducted by our project team at this plant. I noted the terminology and job related information provided by the interviews of workers and supervisors. I listed problems and issues to which they referred, such as poor communication between shifts and problems that led to rejected parts. From this information, I wrote the objectives for this class, which included writing memos to the next shift, reading and writing about the changes workers experienced over the years, and writing a piece which explained the worker's job description and how their jobs fit into the big picture at the plant.

In order to customize *The New Reading Disc,* I listed several topics and work related issues which I thought might interest adult workers. I then met with the male and female liaisons from Detroit Axle to determine topics that would appeal to workers at this plant. These liaisons, workers selected by the union as persons who understood the needs and interest of the workers, assisted the project team with orientation of the plant, input for various aspects of the program, and recruitment of workers for classes. As the liaisons and I discussed each topic, they provided input as to which would be most appropriate. This is how I obtained the list of the following topics:

Article Formats
- How Gears are Made
- Cars of the Future
- Alternative Fuels for Cars
- New Car Features
- Advantages of Chrysler Vehicles
- How to Reduce Stress
- Being a Wise Consumer

Debate Formats
- Advantages of Being a Worker Today
- Leasing or Buying a Car
- Raising the Speed Limit
- Health Care Choices

Letter Formats
- Memo to the Next Shift
- Suggestions for Improvement at Detroit Axle
- Consumer complaint
- Letter of Complaint to Governmental Official

Then I began the search for information and pictures about each of these topics. Since many involved automobiles, I began looking for articles and pictures in magazines, such as *Car and Driver.* I also looked in union-oriented magazines, pamphlets, videos,

etc. Since this project was being conducted for one of the big three auto companies, I was permitted to use their advertisement photos, videos, and downloaded photos from their web-site. Whenever possible, it is wise to take one's own photos and videos, which prevents the time - taking task of obtaining permission. If, however, any videos or pictures are taken in a plant, special permission is required, usually through the Human Resources department.

Most of the photos were found in magazines. A few, such as the solar car and futuristic cars, were taken off home produced videos. Several of the pictures showing the work process were taken from a video that our technical assistant shot at the plant. Of course special permission had to be granted for this. A few were downloaded from web sites. Permission had to be obtained from magazine publishers, but most granted permission when they knew it was for educational use and not for profit.

Most of the videos were shot and edited by me and an assistant from the staff. These videos included capturing an ambulance at a hospital emergency entrance for the health care choices, driving down the expressway with cars passing me showing the speedometer at the speed limit, and a car dealership with new cars for sale or lease. For the advantages of workers debate, I was able to use a segment of a union produced video.

After gathering information, photos and videos, I began writing the text and matching photos and videos. Each selection in the article format required four different possible titles, ten lines of text, and six different photos were needed. One photo was for the subject index and the others were for the slide show presentation. For each selection in the debate format, twenty lines of text were needed and a video to present one side of an issue as well as a photo for the subject index. In the letter format, each selection required five different greetings, ten different opening sentences, ten different closing sentences and five different salutations as well as a photo for the subject index.

Since all the videos and photos had to be installed into the hard drive, careful editing had to be done so the appropriate picture would go with the text. Photos had to be scanned into JPEG files. Since they take up so much memory, photos had to be scanned smaller in size and at lower quality than would otherwise be preferred.

After the lines of text had been written and checked for readability, they had to be inserted into the appropriate format by use of the authoring process for *The New Reading Disc*. Then voice overlays had to be recorded to go with the text. It is advisable to use someone with a pleasant, clear voice. In my case we hired a student who had outside professional experience. The hired student came for two long sessions to do all the voice overlays. It helped to have a second person to do the mechanical part of the customizing so the voice overlay person could concentrate on the texts.

Editing videos to go with the voice overlays was also time consuming. The script for the debate passage had to be read, recorded and then the video had to match. Possibly the video should have been inserted first, but it seemed to work well enough to have the

voice recording first and then clip or extend the video, as needed. We did this because we had to do the voice overlays when the hired student was available. We didn't have the videos in place before he was available.

Once all the text, photos, videos and voice overlays were finished and inserted onto the hard drive, we had to load this onto a zip drive so it could be taken to the manufacturing site to be loaded onto each of the nine computers in the classroom.

Tasks, Time, and Assistance Needed

Since I did not possess all the skills needed to complete this customization process, I had to depend on others for the tasks that I could not do. Following is a task list and approximate time:

A break down of the tasks involved are as follows:

1. Deciding what topics were appropriate to needs .....5 hours
2. Determining appropriate terminology.....4 hours
3. Interviewing liaison workers at site for input about topics.....2 hours
4. Allocating topics to formats.....2 hours
5. Researching information for topics .....18 hours
6. Writing texts for format items.....20 hours
7. Checking texts for readability.....2 hours
8. Finding photos to go with texts.....25 hours
9. Obtaining permission to use photos and videos form sources.....3 hours
10. Taking original videos to go with debate formats.....20 hours
11. Editing videos to go with text.....8 hours
12. Scanning pictures into JPEG files.....10 hours
13. Writing scripts for videos and slide show presentations.....3 hours
14. Making voice overlays for all text.....10 hours
15. Input pictures, videos, text, voice overlays into hard drive.....10 hours
16. Transferring customized portion to site.....7 hours

The tasks broken down by individuals who assisted me were:

Computer technical assistant

- She entered the written scripts for new selections for *The New Reading Disc*
- She entered scanned pictures (JPEGS) ,captured BMP's, and videos onto this disk.
- She installed all the adaptations to *The New Reading Disc* onto the computers located at manufacturing plant

Video technician

- He video-taped steps involved in work process at manufacturing site
- He assisted in scanning pictures for use in *The New Reading Disc*
- He edited video tape with voice overlay and background sounds

Voice overlay student

- He provided voice-overlay for new script and video in *The New Reading Disc*
- He provided voice-overlay for stand alone video for Detroit Axle

Implementation

It was intended that *The New Reading Disc* would be used by hourly workers who needed assistance with word recognition and hearing language patterns, since it provided an audio presentation of the text, if needed. As it turned out, because of seniority issues, the participants in the pilot classes were mostly job setters with higher literacy skills than those of expected hourly workers, for whom it was intended. For this reason, there was a change in the focus of the lessons for the pilot class.

Passages from *The New Reading Disc* were used as springboard for class discussions and writing activity. With these classes, two workers viewed the disk together and discussed items to include in their writing assignment, "Advantages of Workers Today." Workers viewed the disk for possible problems to write in their memos for the next shift. The selection on the disk about the production process helped students with ideas for their writing assignment about their job, their department and the whole plant.

With later classes, the customized instructional template was used with low literates who were able to proceed on their own through the various segments of the program with little assistance from the instructor. Use of *The New Reading Disc* facilitated in meeting needs of individuals at different literacy levels in the classroom.

Recommendations

The New Reading Disc has possibilities for meeting learning needs of workers at other worksites. Because of its computer format and learner-friendly approach, it can be used for workers with low literacy skills without the embarrassment of "going to class to get help with reading and writing skills." Also because learners can proceed at their own speed with individualized work, it can meet the needs of workers at different levels of proficiency.

This program can be used to incorporate work-related topics or information, such as work process or possible problems with production. It can be customized to include the terminology and special needs of specific workplaces. If the need is for better communication in English, appropriate language patterns could be provided in different selections and workers with English as a Second Language could hear the needed patterns over and over as many times as needed, print these out and take them to read and practice at a later time.

Likewise, the program can be customized to address the interests of the workers by determining those topics of interest and then developing selections around them. Adult learners can best relate to experiences with which they can identify. (Knowles 1983) Also, studies have indicated that learners are able to read at higher levels when they read something with which they are familiar and interested in. Diehl &Mikulecky (1980); Sticht, Armstrong, Hickey, and Caylor (1987)

Low literates often present a challenge to traditional workplace education classes. Often they are not able to keep up with the others because of limited skills. They often feel frustrated because so much of the instructional activities are too much like the schooling experiences that they associate with failure. Having an enjoyable interactive multimedia program that is geared to their interests and needs, they feel more comfortable and confident as they work with interesting, well-put-together materials. They feel a sense of accomplishment when choosing sentences and photos to read and print out that they can take with them to show others or to read and enjoy later. *The New Reading Disc* offers some exiting possibilities for these low-literates.

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